ZIGEN

COMPLETE HD/IP
CONNECTIVITY SOLUTIONS

Model: IP-Logic IP-Essentials
Device Type: AVoIP Routing
Control System: Crestron® 3-Series

CRESTRON

GENERAL INFORMATION	
SUMMARY:	Controls video and audio routing, multiview on one display, video wall, IR and RS-232 to transmitters and receivers.
GENERAL NOTES:	SIMPL+ modules are provided that interface with Zigen IP-Essentials. Under the hood these SIMPL+ modules use SIMPL# and the Zigen API over HTTP.
CRESTRON® HARDWARE REQUIRED:	3-Series Processor.
SETUP OF PROGRAM: S-1 : Zigen IP-Logic S-1.1 : Zigen IP-Logic Main 1.0.0 S-1.2 : AV Switching S-1.2.1 : Zigen IP-Logic Transmitter Numbers 1.0.0 S-1.2.2 : Zigen IP-Logic Receiver Numbers 1.0.0 S-1.2.3 : Zigen IP-Logic Video Routing 1.0.0 S-1.2.4 : Zigen IP-Logic Audio Routing 1.0.0 S-1.3 : Video Walls S-1.3.1 : Zigen IP-Logic Video Wall 1.0.0 S-1.4 : Multiview TVs S-1.4.1 : Zigen IP-Logic Multiview 1.0.0 : TV2 S-1.5 : IR S-1.5.1 : Zigen IP-Logic IR Port 1.0.0 : BluRay S-1.5.2 : Zigen IP-Logic IR Port 1.0.0 : TV1 S-1.5.3 : Zigen IP-Logic IR Port 1.0.0 : TV2 S-1.5.4 : Zigen IP-Logic IR Port 1.0.0 : TV3 S-1.6 : 232 Serial S-1.6.1 : Zigen IP-Logic Serial Port 1.0.0 S-1.6.2 : Zigen IP-Logic Serial Port 1.0.0	The program consists of multiple SIMPL+ modules, that each control a different aspect of the IP-Logic system. The easiest way is to think of each module is as a “slot” or “extender” on a piece of hardware in Program View (like a touch panel with Smart Graphics extenders, etc.). Although there are no signal connections between modules, they all communicate behind the scenes using SIMPL#. (Note: You can only control one IP-Essentials control unit per program. If for some reason you need to control multiple IP-Essentials units, you would need to control each one from a different program slot (program01, program02, program03, etc.) or from different Crestron® processors.) The only modules required for program operation are the “Zigen IP-Logic Main” module and the “IP-Logic Transmitter/Receiver Numbers” modules. Add other modules to your program on an as-needed basis.

ZIGEN IP-LOGIC MAIN 1.0.0 *(REQUIRED)*

This is the main Zigen IP-Logic module and is required, regardless of the system configuration.

CONTROL		
Start	D	High/1 (rising edge) = (Re)load transmitter and receiver names from IP-Essentials and start polling RS-232 devices (RX) set to automatic polling (if any).
Stop	D	High/1 (rising edge) = Stop polling RS-232 devices

PARAMETERS		
Host_Name	S	Host name or IP Address of IP-Essentials unit. Must be in the format: http://[HostName][:Port]/ Where [HostName] is the DNS name or IP Address of the IP-Essentials unit, and [:Port] is the optional port number (defaults to 80 if unspecified). String must start with http:// and everything must be followed by a trailing slash. Examples: http://10.32.1.24:40020/ http://ipessentials/
Poll_Interval	D	How often to poll RS-232 devices for RX$. This value is in hundredths-seconds. Example: 2 seconds can be specified as 200d, 2s, or 2.00s.

*Note: **Exactly one** of these modules should be added to the program. If additional IP-Essentials units need to be controlled, they must be controlled from separate program slots or separate processors.*

ZIGEN IP-LOGIC A/V ROUTING

There are six Zigen IP-Logic A/V routing modules.

The two configuration modules are **required** for A/V Routing to be functional: "Zigen IP-Logic Transmitter Numbers 1.0.0" and "Zigen IP-Logic Receiver Numbers 1.0.0". These allow the IP-Logic receivers and transmitters to function in a familiar way to Crestron® programmers in SIMPL Windows—having numbered inputs and outputs like most Crestron® A/V routing hardware. This allows you to use analog signals to route inputs to outputs as you would with a SW-AMP or DM-MD.

Note: By default these SIMPL+ modules support up to 64 transmitters or receivers. If more are needed simply edit and save the "Zigen IP-Logic.usl" file. Then run Project => Recompile All (Alt+F12) in SIMPL Windows.

1. ZIGEN IP-LOGIC TRANSMITTER NUMBERS 1.0.0 *(REQUIRED)*

PARAMETERS		
Transmitter_Name_Input[1–64]	S	Using the web interface on the Zigen IP-Essentials assign **unique** Device Names to each transmitter. *(Note: Although the web interface allows it, receivers and transmitters may **not** share the same name).* *Use alt-+ to expand the parameter fields to support the number of devices in your system.* Fill in the Device Name of each transmitter: input "1d" in Transmitter_Name_Input[1] parameter; input "2d" in Transmitter_Name_Input[2] parameter; and so on.

2. ZIGEN IP-LOGIC RECEIVER NUMBERS 1.0.0 *(REQUIRED)*

PARAMETERS		
Receiver_Name_Input[1–64]	S	Using the web interface on the Zigen IP-Essentials and assign **unique** Device Names to each receiver. *Use alt-+ to expand the parameter fields to support the number of devices in your system.* Fill in the Device Name of the receiver you want to be Output 1 in Receiver_Name_Output[1] parameter; Output 2 in Receiver_Name_Output[2] parameter; and so on.

*Note: **Exactly one** instance of each of these two modules should be added to the program. Do not add multiple instances of these modules to the program.*

3. ZIGEN IP-LOGIC VIDEO ROUTING 1.0.0

CONTROL		
Video_Out[1-64]	A	Selects the video source (transmitter) to route to the corresponding video output (receiver). *Note: HDMI audio will route with video unless the Zigen IP-Logic Audio Routing 1.0.0 module is included in the program with Enable_Audio_Breakaway set.* *These inputs and outputs are assigned to named devices using the "Zigen IP-Logic Transmitter Numbers" and "Zigen IP-Logic Receiver Numbers" modules.*

Note: Exactly one instance of this module should be added to the program—do not add multiple instances of this module to a program.

4. ZIGEN IP-LOGIC AUDIO ROUTING 1.0.0

CONTROL		
Enable_Audio_Breakaway	D	Enables audio breakaway. This allows video and audio to be routed independendly. This must be high for this module to be functional. High/1 = Audio is routed with this module only. Low/0 = Audio routes with video.
Audio_Out[1-64]	A	Selects the video source (transmitter) to route to the corresponding video output (receiver).

Note: This module does not need to be added to the program if Audio Breakaway is not desired. If it is included only one copy is allowed—do not add multiple instances of this module to a program.

5. ZIGEN IP-LOGIC MULTIVIEW 1.0.0

CONTROL		
Go	D	High/1 (rising edge) = Perform the multiview route using the specified Layout_Number and Transmitters.
Clear	D	High/1 (rising edge) = Stop streaming to specified receiver.
Force *A transmitter can only send a single full sized stream and a single scaled stream—it cannot stream to different receivers at different scaled resolutions.*	D	High/1 = Fails silently if a transmitter is currently streaming scaled to another multiview at a different resolution. (Nothing is routed.) Low/0 = Forcibly disconnects a transmitter from other multiview layout(s) if there is a resolution mismatch.
Layout_Number	A	**0** - *Picture in Picture* **1** - *Picture and Picture* **2** - *2x2* **3** - *3x3* **4** - *4x4* **5** - *2x2 and middle* **6** - *4x4 and middle* **7** - *1 big, 3 small left* **8** - *1 big, 3 small right* **9** - *1 big, 5 small bottom left* **10** - *1 big, 5 small bottom right* **11** - *1 big, 5 small top left* **12** - *1 big, 5 small top right* **13** - *1 big, 7 small bottom left* **14** - *1 big, 7 small bottom right* **15** - *1 big, 7 small top left* **16** - *1 big, 7 small top right* **17** - *32 small* **18** - *2 big, 8 small I-Shaped*
Layout_Position[1-64]	A	Source (transmitter) to send to each layout position. If the layout features a big surface, the first position is normally the big surface (except for Picture in Picture, the smaller surface is first). If the layout features middle surrounded by smaller surfaces, the first is the middle surface. Otherwise, positions are left to right, top to bottom. *Note: These inputs are assigned to transmitters using the "Zigen IP-Logic Transmitter Numbers" module.*

PARAMETER		
Receiver_Name	S	Device Name of receiver to stream the multiview to. *This name is assigned in the IP-Essentials web setup.*

6. ZIGEN IP-LOGIC VIDEO WALL 1.0.0

CONTROL		
Stretch_To_Fit	D	High/1 = Stretch video stream to cover entire wall with no black bars added. Low/0 = Keep aspect ratio by adding black bars to wall.
Video_Source	A	Source (transmitter) to send to video wall. *Note: This value is assigned to named transmitters using the "Zigen IP-Logic Transmitter Numbers" module.*

PARAMETER		
Width	A	Number of columns in video wall.
Height	A	Number of rows in video wall.
Switcher_Mode	S	Fastswitch Wall Mode or Genlock Wall Mode.
Receiver_Name[1-64]	S	Device Names of receivers in the video wall: Left-to-right, top-to-bottom. *(Use alt-+ to expand the parameter fields to support the number of devices in your system.)* *Note: These names are assigned in the IP-Essentials web setup.*

ZIGEN IP-LOGIC IR PORT 1.0.0

This module allows you to send CCF Hex IR commands to the IR port on transmitters and receivers. CCF Hex codes can be obtained from Remote Central and other sites on the Internet, or can be extracted from Crestron .IR files using a utility like CF IR Learner and others.

CONTROL		
Video_Source	A	Source (transmitter) to send to video wall. *Note: This value is assigned to named transmitters using the "Zigen IP-Logic Transmitter Numbers" module.*

PARAMETER		
Device_Name	S	Device Names of receiver or transmitter to send IR to Left-to-right, top-to-bottom. *Note: This name is assigned in the IP-Essentials web setup.*
CCF_HEX[1-64]	S	Format: Label (optional) : CCF Hex code. *Label may be omitted. It is strictly to make this more readable to you as the programmer. Spaces are optional.* *(Use alt-+ to expand the parameter fields to support the number of devices in your system.)* Example: Power_On: 0000 1111 2222 3333 4444 5555 6666 7777 8888 9999 1111 Or without label: 0000 1111 2222 3333 4444 5555 6666 7777 8888 9999 1111

ZIGEN IP-LOGIC SERIAL PORT 1.0.0

This module allows you to send and (optionally) receive RS-232 Serial data.

CONTROL		
Poll_RX	D	Manually polls for any RS-232 commands received from the transmitter or reciever. Polls once each time Poll_RX goes high (rising edge) *Not needed if Poll parameter is set to Automatic.*
tx$	S	Transmits serial data to the RS-232 port on the transmitter or receiver.

FEEDBACK		
rx$	S D	The string received from the RS-232 port. *Data is received here when the device is polled manually or automatically.*

PARAMETER		
Device_Name	S	Device Names of receiver or transmitter with RS-232 port. *Note: This name is assigned in the IP-Essentials web setup.*
Poll	A	Manual: RS-232 data is retrieved from the RS-232 port if and when Poll_RX goes high. Automatic: RS-232 data is retrieved periodically from the RS-2332 port. *Poll rate is set on the "Zigen IP-Logic Main 1.0.0" module.*
BaudRate **DataBits** **StopBits** **Parity**		Serial Settings for the RS-232 Port.